

## Claims

1. A system for acoustical communication in which an eyeglass frame (10) comprises at least one directionally dependent microphone (13, 15, 16) for capturing voice signals of a user (21) as well as communication means (12) for  
5 signal transmission to external electronic devices (30), wherein

the directional dependence of the at least one microphone (13, 15, 16) is user-specifically adaptable in a dynamic way.

2. The system for acoustical communication according to claim 1, wherein a control module (11) comprises means for adaptive user-specific ad-  
10 justment of the directional dependence of the at least one first directionally dependent microphone (13, 16) based on the voice signals captured by the at least one second directionally dependent microphone (13, 15).

3. The system for acoustical communication according to one of the claims 1 or 2, wherein the at least one second directionally dependent micro-  
15 phone (15) is a contact microphone.

4. The system for acoustical communication according to claim 1, wherein the signal captured by a first directionally dependent microphone (16) is able to be filtered by means of the signal captured by a third microphone (13).

5. The system for acoustical communication according to one of the  
20 claims 1 to 4, wherein an amplifier (48) is controllable by means of the signal captured by a third microphone (15).

6. The system for acoustical communication according to one of the claims 1 to 5, wherein the signal captured by a directionally dependent microphone (15) is processable based on reference filters.

25 7. The system for acoustical communication according to one of the claims 1 to 6, wherein the at least one directionally dependent microphone (13, 15, 16) is implemented as a microphone array.

8. The system for acoustical communication according to claim 7, wherein the at least one microphone array is implemented in MEMS technology.

9. The system for acoustical communication according to one of the claims 1 to 8, wherein the external device (30) comprises a mobile radio device.

5           10. The system for acoustical communication according to one of the claims 1 to 9, wherein the eyeglass frame (10) comprises means for retinal scanning display.

          11. The system for acoustical communication according to claim 10, wherein the eyeglass frame (10) comprises means for capturing the direction of  
10 view.

          12. The system for acoustical communication according to one of the claims 1 to 11, wherein the system comprises a speech recognition module for capturing spoken commands by means of the at least one directionally dependent microphone (13, 15, 16).

15           13. The system for acoustical communication according to one of the claims 1 to 12, wherein the communication system comprises Bluetooth and/or ZigBee and/or GSM and/or UMTS interfaces (12, 33).

          14. The system for acoustical communication according to one of the claims 1 to 13, wherein the system comprises photovoltaic cells for the power  
20 supply (14).

          15. A method for acoustical communication in which voice signals of a user (21) are captured by at least one directionally dependent microphone (13, 15, 16) installed on an eyeglass frame (10) and are transmitted via a wireless interface (17) to an external device (30), wherein

25           the directional dependence of the at least one directionally dependent microphone (13, 15, 16) is user-specifically adapted in a dynamic way.

16. The method for acoustical communication according to claim 13, wherein

voice signals of a user are captured by means of at least one first directionally dependent microphone (13, 15), and

5 based on the voice signals, captured by at least one first directionally dependent microphone (13, 15), of a user (21), the directional dependence of the at least one second directionally dependent microphone (13, 16) is adaptively adjusted user-specifically.

17. The method for acoustical communication according to one of the  
10 claims 15 or 16, wherein the at least one second directionally dependent microphone (15) is implemented as a contact microphone.

18. The method for acoustical communication according to claim 13, wherein the signal captured by a first directionally dependent microphone (16) is filtered by means of the signal captured by a third microphone (13).

15 19. The method for acoustical communication according to one of the claims 13 to 18, wherein an amplifier (48) is controlled by means of the signal captured by a third microphone (15).

20 20. The method for acoustical communication according to one of the claims 13 to 19, wherein the signal captured by a directionally dependent microphone (15) is processed based on reference filters.

21. The method for acoustical communication according to one of the claims 13 to 20, wherein the at least one directionally dependent microphone (13, 15, 16) is implemented as a microphone array.

22. The method for acoustical communication according to claim 21,  
25 wherein the at least one microphone array is implemented in MEMS technology.

23. The method for acoustical communication according to one of the claims 13 to 22, wherein the captured signals (22, 24) are transmitted to a mobile radio device (30).

24. The method for acoustical communication according to one of the  
5 claims 13 to 23, wherein the user has image data projected onto the retina using a retinal scanning display.

25. The method for acoustical communication according to claim 24, wherein the direction of view of the user is captured by means of a module.

26. The method for acoustical communication according to one of the  
10 claims 13 to 25, wherein spoken commands are captured by means of a speech recognition module.

27. The method for acoustical communication according to one of the claims 13 to 26, wherein the captured signals are transmitted to an external device via a Bluetooth and/or a ZigBee and/or a GSM and/or a UMTS interface.

28. The method for acoustical communication according to one of the  
15 claims 13 to 27, wherein the power supply (14) is provided through photovoltaic cells.